## CLAIMS

What is claimed is:

1. A method comprising:

opening a number of nanotubes to create open-ended nanotube segments; and

bringing a corresponding number of connector molecules into contact with the nanotube segments, each connector molecule providing first bonding sites capable of bonding with one end of the nanotube segments and second bonding sites capable of bonding with corresponding bonding sites of a plurality of other connector molecules, such that bonding occurs forming three-dimensional nanotube structures.

2. The method of claim 1 wherein the nanotubes are carbon nanotubes.

3. The method of claim 2 wherein the connector molecule is in the shape of a cone.

4. The method of claim 3 wherein the base of the cone is comprised of a ring of atoms capable of binding to an edge of an open-ended nanotube segment.

5. The method of claim 3 wherein the point of the cone is comprised of a single point atom capable of binding with a corresponding point atom of each of two or more other connector molecules.

6. The method of claim 2 further comprising:

allowing bonding to occur; and

filtering at least some of any misbonded nanotube segments or connector molecules.

7. The method of claim 6 further comprising:

mixing the three-dimensional nanotube structures with a polymer matrix material to form a composite polymer material.

8. The method of claim 6 further comprising:

forming a heat dissipation device from the composite polymer material.

9. The method of claim 8 wherein the heat dissipation device is a heat dissipation device selected from the group consisting of a microchannel device, a cold plate, an integrated heat spreader, and a heat sink.

10. The method of claim 8 wherein a method of forming the heat dissipation device is selected from the group consisting of molding, casting, and extruding.

11. A composite polymer comprising:

a polymer matrix material; and

one or more three-dimensional nanotube structures incorporated within the polymer matrix material.

12. The composite polymer of claim 11 wherein each three-dimensional nanotube structure is comprised of a number of open-ended nanotube segments each having at least one connector molecule bonded thereto, at least some of the connector molecules bonded to two or more other connector molecules.

13. The composite polymer of claim 12 wherein the nanotube segments are carbon nanotube segments.

14. The composite polymer of claim 13 wherein the connector molecules are in the shape of a cone.

15. The composite polymer of claim 14 wherein the base of the cone is comprised of a ring of atoms capable of binding to an edge of each of the open-ended nanotube segments.

16. The composite polymer of claim 14 wherein the point of the cone is comprised of a single point atom capable of binding with a corresponding point atom of each of two or more other connector molecules.

17. A connector molecule comprising:

one or more atoms providing a plurality of binding sites capable of binding to one end of an open-ended nanotube segment; and

one or more additional atoms providing one or more binding sites capable of binding to a corresponding one or more additional atoms of more than one other connector molecules.

18. The connector molecule of claim 17 wherein the connector molecule is in the shape of a cone.

19. The connector molecule of claim 18 wherein the base of the cone is comprised of a ring of atoms capable of binding to an edge of an open-ended nanotube segment.

20. The connector molecule of claim 18 wherein the point of the cone is comprised of a single point atom capable of binding with a corresponding point atom of each of two or more other connector molecules.

21. The connector molecule of claim 17 wherein the nanotube segment is a carbon nanotube segment.

22. A system comprising:

an integrated circuit device; and

a heat dissipation device thermally coupled thereto, the heat dissipation device formed of a composite polymer comprised of a polymer matrix and one or more three-dimensional nanotube structures incorporated within the polymer matrix.

23. The system of claim 22 wherein each of the one or more three-dimensional nanotube structure is comprised of a number of open-ended nanotube segments each having at least one connector molecule bonded thereto, at least some of the connector molecules bonded to two or more other connector molecules.

24. The system of claim 23 wherein the nanotube segments are carbon nanotube segments.

25. The system of claim 22 wherein the heat dissipation device is a heat dissipation device selected from the group consisting of a microchannel device, a cold plate, an integrated heat spreader, and a heat sink.

26. The system of claim 25 wherein a method of forming the heat dissipation device is selected from the group consisting of molding, casting, and extruding.

27. The system of claim 26 wherein the heat dissipation device is a microchannel device formed by pressing wires between one or more stacked slabs of the polymer matrix such that the polymer matrix conforms to a shape of the wire and subsequently removing the wire to form one or more fluid channels for the microchannel device.